33798
10D

FREE PRESS
QUAKERTOWN, PA
PM—3,000

Known carcinogen heads list of

By DAVID HERZOG
Free Press staff

A cancer-causing agent is one of six toxic wastes which are present or suspected in lagoons on the Revere Chemical Company site in Nockamixon Township.

Revere, located along Route 611, was a metal reclamation plant until the Pennsylvania Department of Environmental Resources closed it in the early 1970s. Last Tuesday it was added to the United States Environmental Protection Agency's Superfund list of hazardous waste sites slated for cleanup.

Beryllium, found on the site during EPA tests in 1984, "has been established to be a human carcinogen," according to Dawn Ioven, a toxicologist for the Environmental Protection Agency in Philadelphia. She added the EPA has classified beryllium, a chemical used to form alloys, a B-1 carcinogen, placing it in the second most dangerous class of carcinogens.

She said in vitro studies (in which animal tissue is experimented upon in an artificial environment) have shown beryllium to cause DNA mutation in cells and damage the ability of DNA to replicate.

But, Dr. Joseph Cotruvo, Director of EPA's Drinking Water Standards Division in Washington, D.C., said the cancer-causing ability of beryllium is "questionable by ingestion."

Ionova said beryllium is rapidly excreted by laboratory rats and added actual effects of ingestion depend upon the amount ingested.

Copper sulfate was also found at the site during the 1984 tests, Ionova said. "The EPA has not established drinking water criteria for copper," but said acute copper poisoning has a number of severe symptoms.

Persons with copper poisoning, she said, suffer vomiting, with blood in the vomit, hypotension (low blood pressure), jaundice and blood in the stool. She added autopsies done on persons with copper poisoning have shown them to have degenerated livers.

However, a small amount of copper sulfate in the drinking water is beneficial, according to Cotruvo. It is commonly used as part of water treatment to try and prevent algae growth," he said.

Copper sulfate is normally stored in bile, said Ionova, and excreted during defacation.

Cotruvo said ammonia, suspected to be at the site by the EPA, also is commonly put in the water in small quantities. Only when bacteria convert the ammonia to nitrate does it pose a threat to young babies, he said. The nitrate prevents the ability of red blood cells to carry oxygen and could cause death. The condition, commonly called "blue baby", is reversible, said Cotruvo.

Other hazardous materials present or thought to be present at the site are:

ORIGINAL (red)

toxins at Revere

•Lead. Ionova said lead "is not all too often found in water...except under highly acidic soil conditions." Then, she said, the water leaches the lead from the soil and into the water table.

Most people are not affected by lead poisoning but "there are some sensitive populations such as little kids," Ionova said. In addition, lead can be toxic to fetuses and interfere with conception as well as result in brain and peripheral nerve damage.

Lead, she said, is stored in the bones and tissues of humans. She added lead in bones has a 20-year half life. That is, it takes the body 20 years to eliminate one-half of lead stored in bones.

•Chromium. Ionova said exposure to chromium in drinking water may result in liver and kidney damage, internal hemorrhaging and respiratory disorders. But she said there are two different types of chromium with different electrical charges. Chromium-3 is harmless, while chromium-6 is potentially toxic because "it crosses all cell walls readily."

•Sulfuric acid. Ionova said it is "very unlikely" sulfuric acid would appear in water in an acidic form, especially when a base such as ammonia is present. She said sulfuric acid would combine with the base to form an insoluble salt which would most likely be elimated by the body.

Ionova said she based her statements on EPA reference sources.